China’s New Projects Make Progress

Two of China’s large aircraft programs are making significant progress: construction of both the 158-passenger Comac C919 single-aisle airliner and the world’s largest amphibian, the AVIC AG600, should be completed by the end of the year. Both are slated to make their first flights within the next several months.

Meanwhile, the marketing campaign was launched for AVIC’s MA700 regional turboprop with 185 orders from 11 customers.

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Boeing Moves Toward 737 Center in China

Boeing is expected to announce plans later this month to establish a completion and delivery center for the Boeing 737 in China, says Aviation Week. The ambitious move, if confirmed, is expected to be revealed when the President of China Xi Jinping passes through Seattle on Sept. 23 during his first state visit to the U.S. The new center will represent Boeing’s biggest single overseas commercial aircraft work venture, and the closest the company has come to opening a foreign-based production line.

Boeing, which declines to “comment on speculation,” is thought to have been in talks with China over the move for several years.
从成功走向成功
777-300ER，让我们飞得更好。波音777-300ER将航程能力、卓越的燃油效率以及受乘客青睐的舒适度集于一身，为全球多家航空公司带来了成功。最新的产品改进将进一步帮助航空公司降低成本、增加营收，无论是在飞行中还是在财务方面。777-300ER使每一个机队都成为盈利能力更强的机队。让我们飞得更好。
Boeing May Open 737 Center in China

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The ambitious move, if confirmed, is expected to be revealed when the President of China Xi Jinping passes through Seattle on Sept. 23 during his first state visit to the U.S. The new center will represent Boeing’s biggest single overseas commercial aircraft work venture, and the closest the company has come to opening a foreign-based production line.

Boeing, which declines to “comment on speculation,” is thought to have been in talks with China over the move for several years. The facility will likely take unfinished aircraft straight off the Renton assembly line and, it is believed, will complete painting, flight testing, delivery certification and customer acceptance. Interior installation, including sidewalls, galleys, seats and cabin features, are currently completed for all current 737 Next Generation aircraft on the moving line at Renton, and it is not known if this will continue for all MAX models or be split in some cases with the new site.

At present aircraft are rolled off the line and spend several days at Renton where avionics are installed, engines run and fuel systems tested. The new aircraft then make their “B1” Boeing production acceptance test flight. The China site is expected to take ‘green’ airframes off the Renton line after the B1 flight and complete exterior painting, a process that currently takes up to three days at facilities located at either Renton or nearby Boeing Field, Seattle. It will also oversee flight testing and customer delivery, a process that can take between three and six weeks, depending on specific customer specifications.

From a business perspective the opening of the center will build on Boeing’s already close and extensive existing relationship with China which currently makes the horizontal stabilizers, vertical fins, aft tail section, doors, wing panels and other components of the present 737 model. Chinese manufacturers also supply parts for the 747-8, as well as the rudder, fairings, leading edge vertical fin panels and other composite parts for the 787.

In addition, Xiamen, China, is the first conversion location for the 747-400 Boeing Converted Freighter program.

—Aviation Week
AVIC On Track With Growth Plan

AVIC is making progress on the world stage, with its latest financial performance moving it up 34 points to 178th on the 2014 list of Fortune’s Global 500 companies.

And having said a year before that it was targeting eventual annual revenues of RMB400 billion and profits of RMB15 billion, 2014 saw those goals coming within sight. Last year it achieved a 12.8% increase in revenues to RMB394 billion, and annual profits of RMB14 billion.

This year it could exceed at least one of those targets, according to Chairman Lin Zuoming. 2015 revenues are projected at RMB430 billion, and profits at RMB14.5 billion.

The company is moving ahead with equal emphasis on both civil and military aviation, and continues to enjoy a strong aerostructures business supplying airframes and parts for Airbus, Boeing, Bombardier and ATR.

It’s military expertise was highlighted at the 70th Anniversary of the Victory of Chinese People’s Resistance against Japanese Aggression and World Anti-fascist War on September 3, when nearly 200 aircraft of over 20 types from AVIC flew above the Tian’anmen Square in the largest aircraft flotilla seen in China since the founding of the country.

But it is in commercial aviation that AVIC is developing products that could rival those in the West. Most advanced in this respect is Avicopter, the company’s helicopter arm, which later this year will make the maiden flight of the Turbomeca/AVIC WZ16-powered, 16-passenger AC352 helicopter developed in conjunction with Airbus Helicopters. It will also achieve certification of the improved-performance, Turbomeca-powered AC311A light, single-engine helicopter, and will complete design of the twin-engine AC322, which it expects to be competitive with Western rotorcraft in its class. Avicopter has said it must get its product range ready by 2018, to take advantage of the opening of low-altitude airspace in China.

AVIC also has high hopes for the 90-passenger MA700 turboprop regional airliner, which will be built around the very latest technology.

The company will deliver a total of 383 civil aircraft this year. It counts in the total the output of Cirrus Aircraft in the U.S., which AVIC owns. Last year, Cirrus delivered a record 308 light, single-engine piston aircraft and there is no reason to believe this year will not match that performance.

AVIC is working to develop general aviation in China; indeed a number of operators in China have placed large orders this year for Cirrus aircraft. Among AVIC’s efforts are the AviClan club of flying clubs, and other clubs and even development of theme parks to promote demand for general aviation, aircraft sales and product improvement.

One of Lin Zuoming’s priorities this year is to form a new innovation group within AVIC. Through this group it will intensify its investment in technology and research, and share knowledge across all branches of the company, he says.

AVIC Chairman Lin Zuoming.

中航工业在2014年全年营业收入达3940亿元，同比增长12.8%。全年实现利润140亿元，EVA46亿元。集团总资产达到7846亿元，同比增长14.5%，所有者权益为2753亿元，增长19.8%。中航工业在《财富》世界企业500强中排名升至第178位，比上年上升34位。2015年，中航工业力争实现营业收入4300亿元、利润450亿元、EVA50亿元。

在9月3日举行的纪念中国人民抗日战争暨世界反法西斯战争胜利70周年大会上，由中国航工业研制生产的共计20余型近200架飞机组成10个空中梯队飞越天安门广场，接受检阅，创造了新中国历次阅兵的机队规模和机型数量之最。

在民用航空工业领域，中航工业将继续以市场需求为导向，加快推动民用航空产业发展。总体发展目标是积极开拓民机市场，力争实现全年交付各类民机383架，完善民机运营支持体系，提升民机国际合作层次。在直升机发展方面，AC322直升机配装涡轴16将实现首飞，AC311A将完成航空器评审取证，AC322将完成概念设计，继续改进直升机竞争力工程。

2015年，中航工业将继续“爱飞客”、“爱游客”、“爱创客”、“爱攀客”、航空大世界等创新项目发展，促进飞机销售和产品改进。围绕航空主业推进产融结合，搭建产融网络平台。

中航工业董事长林左鸣表示，2015年中航工业将以科技创新为依托，扎实推进创新型集团建设。具体措施上，中航工业将加大科技创新自主投入，建立新技术专业研究队伍，完善科技人才激励机制和科技工作评价制度，推动知识共享和成果转化。
Boeing and CASC To Co-Operate on Aftermarket

Boeing is working to come to an agreement with China on the provision of spare parts for Boeing aircraft. State-owned company China Aviation Supplies Holding Company (CASC) “has provided excellent support as our logistics provider for the China Distribution Center in Beijing for many years,” says Stan Deal, Boeing senior vice president of Commercial Aviation Services. Boeing and CASC recently signed a memorandum of understanding to establish a framework for cooperation on aftermarket parts solutions for China, he says, without elaborating on when a final deal will be reached.

Air China to Start Flying to South Africa in October

Air China will launch a three-times-weekly Boeing 777-300ER service from Beijing to Johannesburg in South Africa on October 29. Beijing-based Air China says it will also start flights to the Ethiopian capital Addis Ababa before the end of this year.

China’s government has reportedly been pushing the country’s airlines to launch flights to Africa, because China is working to develop economic and political ties there. China is also investing heavily in infrastructure developments in Africa.

Africa a Challenging Market: China Southern

China Southern Airlines chairman, Si Xianmin, says the challenges in serving the African international market include: Africa’s restrictions on air traffic rights and Africa’s scattered passenger sources. He says we need to increase our traffic rights to Africa and rely on Nairobi—which is the hub for SkyTeam Alliance—as our main hub in Africa to attract more passengers from neighboring countries. China Southern opened a Beijing-Dubai-Lagos service in 2006, but suspended it three years later after reporting heavy losses on the route.

Xiamen Looking to Order More 787s

Xiamen Airlines plans to do follow-on order for more Boeing 787s, but availability of early delivery slots are part of the negotiations. Xiamen Airlines ordered six 787-8s and five have already been delivered. The airline’s chairman Che Shanglun has told local media they want to order four to six 787-9s. An industry source says Boeing is now working to try and find early delivery slots for Xiamen Airlines. The carrier uses the aircraft mostly on international sectors such as the Xiamen-Amsterdam route.

Spring Airlines Receives its 50th A320

Shanghai-based Spring Airlines has added its 50th Airbus A320 to its fleet. “The sustained development and steady growth of Spring Airlines has impressed the industry deeply,” says Eric Chen, Airbus China president. “There is great potential for low cost airlines in China as the market demand for cost efficient air traffic is growing,” he says. Spring’s 50th A320 is a new aircraft it is leasing from ICBC Financial Leasing. It was assembled at Airbus Tianjin and is also the 210th A320 assembled in China.
波音与中航材在售后市场开展合作

根据所签署的合作备忘录，双方拟在消耗材料寄售、维修工具及飞机停放服务、周转件共享及交换、飞机起落架维护与维修及信息平台建设等方面建立合作关系。波音民用航空服务高级副总裁斯图·迪尔表示，新的备忘录将为进一步扩展和深化波音与中航材集团在多领域的合作。同时对加快提升航材共享平台的搭建工作也将起到重要作用。

国航开通至南非航线

中国国航股份有限公司将用波音777-300ER于10月29日开通北京至约翰内斯堡直飞航线。这是目前开辟的首条连接中国大陆与南非的空中通道，也是国航第一条飞往非洲的航线。此次国航开通北京－约翰内斯堡航线是借势发力，为中非铺设一条“空中丝路”，架起国际合作新桥梁，让亚非两片大陆紧密相连，进一步促进中非之间的交流与发展。

非洲是一个充满挑战的市场

南航集团总经理助理孙月民表示，非洲市场是中国航企服务国家外交、实现全球化布局必须啃下的“硬骨头”。非洲市场充满机遇，也存在严峻挑战，南航在南非有所作为。我国航空公司执飞点三线航班规模，但非洲市场客源分散，任何一点都不足以支撑航线运行，必须由点到面。执飞内罗毕不仅要有南非客源支撑，还必须依靠周边国家客源补充。南航曾在2006年开辟了首条中国至非洲大陆（北京－迪拜－拉各斯）的航线，但3年亏损4亿多元，于2009年暂停运营。

厦航考虑增购波音787

厦航飞行计划办公室经理王春春在接受采访时说，厦航正在考虑引进更多的787飞机，并跟上其国际网络扩张计划。目前厦航已运行5架波音787，第6架波音787飞机将于9月底加盟。未来几年，厦航还将引进6架更为先进的波音787飞机，全力拓展洲际航线，形成通达全球的航线网络。

春秋航空接收第50架A320

春秋航空公司近期接收了第50架A320。空客中国公司总裁陈菊明表示：“作为中国民营低成本航空公司，春秋航空坚持不懈和卓有成效的发展令人敬佩。我们非常自豪地看到空中客车飞机为客发展做出了贡献。在中国经济蓬勃发展的带动下，中国航空业发展迅猛。为各种运营模式的航空公司提供了前所未有的发展机遇。中国低成本航空市场需求旺盛，潜力巨大。空客对A320系列飞机进行的持续改进确保了该机型的市场领先地位。”春秋航空公司接收的新飞机是通过工银金融租赁有限公司租赁而来，该机是空客天津总装厂总装的第210架A320。

近百万中国游客涌向澳大利亚

澳大利亚的民航运输业是中国国际旅客快速增长的最大受益者之一，预计在不久的将来这一市场对于澳大利亚来说将变得更加重要。

近日在悉尼举行的澳大利亚太平洋航空峰会上，CAPA首席执行官Kerrie Mather指出，在国际乘客的流量方面，中国乘客将占据悉尼机场最大的市场份额。而早在5年前，悉尼机场的中国乘客数量仅位居第7。

旅游与交通论坛的首席执行官Margy Osmond表示，澳大利亚的中国游客数量以每年20%的增长率不断增加，去年的访澳人数已经突破90万。而今年这一数字则有望超过100万，这意味着中国将替代新西兰成为澳大利亚最大的旅游市场。此外，马来西亚和越南的游客也在以近20%的增速增长。

Osmond指出，澳大利亚政府必须确保其政策不会抑制中国游客数量的增长。例如，政府近期内提高了中国游客的澳洲签证费用，尽管仅在原来135澳元（99美元）的基础上提高了5澳元，但这一政策导向是错误的。香港的游客签证费仅为20澳元。

旅游顾问Bob Cain认为，可以将中国出国旅游的游客数据为爆炸式增长，他指出，一项研究报告的数据显示，在5到7年内，中国出国旅游的游客数量将会翻一番。此外，韩国出国旅游的游客数量的增长速度也与中国差不多。

亚洲旅游市场存在如此巨大潜力的一个原因，该地区的中产阶级数量正在快速增长，Cain表示，2009年，亚太地区的中产阶级数量占全球的28%，而2020年这一比例将增加至54%。
“New” Ameco will Keep Focus on International Business

新Ameco将专注于拓展国际业务

The restructuring earlier this year of one of the world’s leading maintenance, repair and overhaul (MRO) organizations, Ameco Beijing, will increase its competitiveness at home and overseas, and bring new capabilities to its customers.

“New” Ameco Beijing has been created by merging Air China’s in-house MRO arm Air China Technics into the former Ameco Beijing, itself a joint venture between Air China and Lufthansa German Airlines formed in 1989. While the German shareholding in new Ameco Beijing has been reduced from 40% to 25%, the amount of its investment remains the same, says Chai Weixi, Vice President of Air China and CEO of new Ameco.

“In the new structure, Air China and Lufthansa will continue their sincere cooperation. Lufthansa’s vision of Ameco’s successful development remains unchanged, while Air China still regards Lufthansa as a very important partnership for the development of new Ameco,” says Chai. “New Ameco and Lufthansa Technik will continue to cooperate on large-scale projects such as landing gear overhaul, as well as MRO industry development. Transfer of technology will be unchanged, and sharing of experience and know-how will continue.”

The merging of Air China Technics and Ameco will reduce duplication of resources while adding to the capabilities offered to customers. It also aligns MRO activities at nine branches located in Chengdu, Chongqing, Hangzhou, Tianjin, Hohhot, Shanghai, Guiyang, Wuhan and Guangzhou with the Beijing base. Together they hold maintenance licenses from almost 30 countries or regions, including CAAC, FAA and EASA.

While its prime role is to maintain and service Air China’s growing fleet, “New Ameco will establish multi-bases and network services, committing to providing third-party customers with high quality and comprehensive services,” says Chai. And while integration is under way, Ameco will continue to pursue international business even more strongly than before.

Lufthansa Technik and Ameco will continue to have their own sales teams to look after their own customers separately. But the new Ameco, with greater capabilities than before, expects to be even busier, says Chai.

For example, Ameco is developing an aircraft related components repair capability coupled with composite repair. It is also focusing on new aircraft types, such as aircraft overhaul of Boeing 747-8Is, and line maintenance on Boeing 787s and Airbus A350s. And it has just added V2500 engine overhaul capability.

“After integration, new Ameco is much stronger in its capabilities, output and network than before,” says Chai. “It also has sufficient resources, assets and channels, which bring a stronger ability to serve customers in overseas markets. We believe our products are more competitive than ever before.”
有没有一款机型，无论远近，皆可助航空公司从容翱翔天宇？

100多家航空公司的专业之选
——空客A330。

空中之道 空客知道
Turboprop airliners are unpopular in China, and should demand arise, Bombardier and ATR would have to compete with AVIC’s government-favored MA60 and MA600 Chinese produced aircraft.

But it seems things are ready to change, says John Moore, head of global sales for regional aircraft manufacturer ATR, a joint venture between Airbus and Alenia Aeronautica.

The Chinese market “has been a little bit of a disappointment for ATR,” he says with a wry understatement. The company only ever sold five ATR72s there, to China Southern Xinjiang branch, which operated them for 12 years before moving up to larger jets. And Bombardier fared little better with its Q400 turboprops.

However, “I’m very optimistic about China,” says Moore. That’s because the country seems ready to develop the many low-capacity routes that could link smaller cities, or feed into larger domestic networks. Airlines have been focusing on international growth, or linking larger cities with Airbus A320 and Boeing 737-sized aircraft, which are far too large and uneconomic for opening lower-level markets.

And just as new start-up airlines are viewing these opportunities, so they will realize that under-100-seat turboprop airliners will be the best equipment.

AVIC is of the same opinion, and is developing the 90-seat MA700 turboprop airliner to meet what it sees as emerging demand.

Moore sees an anomaly in China: in Asia-Pacific, the countries all around, ATR has taken an 80% market share, and has just delivered its first aircraft into the Japanese market. Low cost and regional airlines are finding the ATR ideal for operating higher frequencies on shorter distance, thin routes. Regional aircraft make up less than 10% of the fleets in China, but up to 30% in neighboring areas.

So, the opportunities are emerging in China, he says. To capitalize on them ATR has decided to be “more active, more visible, more present” and is more than doubling its team in country to include up to five salesmen. “That’s a big commitment for us,” he says.

Can ATR compete with AVIC? “Yes, and this market will be large enough for more than one supplier,” Moore says.

Ironically, AVIC’s Xi’an Aircraft Company has been building external wing box sections for the ATR42 for 30 years, and fuselage sections for the ATR72 since 1997. That industrial relationship hasn’t resulted in sales in China, but Moore notes that the more ATRs are sold into China, the busier AVIC will be!

There are no Western-made regional turboprop airliners operating in China.

目前，在中国的航空运输市场已经没有西方涡桨支线飞机的身影，但这一状况即将发生变化。据ATR全球销售负责人John Moore表示，此前ATR仅向南航新疆分公司售出5架ATR72。这5架飞机在退役之前已经运营了12年。

现在，John Moore对于中国市场表示乐观，因为中国似乎已经准备好开拓更多短途航线，将更多中小城市联系在一起，或者向国内枢纽机场运营旅客。一些新成立的航空公司正在考虑用100座以下的涡桨支线飞机运营短途航线。面对中国市场的新机遇，ATR将把它的中国团队扩大1倍，销售队伍增加至5人。“这是ATR看好中国未来市场的强力佐证”。

中航工业也看准了这一点，他们正在研制90座级的“新舟”700涡桨支线客机，以满足潜在需求。中航工业西飞公司已经为ATR42飞机生产外翼盒超过30年，并自1997年起就为ATR72飞机生产机身舱段。
We’ll just state the facts about the V2500® engine. Lowest environmental impact, lowest fuel burn and lowest cost of ownership. Draw your own conclusions. If it says to you versatility, value and vitality, that’s not us talking. That’s the V. Learn more at i-a-e.com.
Bombardier Sees Growth on Smaller Routes

Smaller domestic routes in China are poised to grow faster than the rest of China’s domestic passenger market.

That’s the view of Andy Solem, Bombardier Commercial Aircraft VP sales for China and Asia Pacific. “The big shift, and this is also the consensus in the market, is that we’re not going to see huge double-digit growth rates anymore in the overall domestic market, and that domestic passenger growth will slow from 10% down to 7%.” But because China is such a big market, “7% growth is good by anyone’s standards.”

There have been many independent carriers starting up in China and Bombardier has been targeting these. “The number of airline startups we’re seeing in China is unprecedented. There are about 30 new airlines that are currently applying for air operator certificates from the CAAC,” says Solem, adding that these are potential commercial aviation and business aviation operators.

“I don’t think we are going to see them all get approved,” but a significant number will get approval, says Solem.

One such applicant Bombardier is banking on is Sutong Airlines. In 2014, the airline’s parent Nantong Tongzhou Bay Aviation Industry Co., signed a letter-of-intent for 40 Q400s.

Solem says the customer has yet to sign a firm order, because the airline is still working to get its AOC.

Smaller Airliners Have a Role to Play

Manufacturers of smaller commercial aircraft have struggled in recent times to sell aircraft into China, but the situation may improve in future thanks to there being more start-up airlines in the country.

Robert Martin, CEO of leasing company BOC Aviation, says: “There’s definitely a place for smaller aircraft in China because you have over 100 cities in China with a population of over 1 million.” He says: “There will always be some thin routes where having a smaller-capacity aircraft makes sense.”

Martin says one of the issues aircraft makers such as ATR and Bombardier have faced is that China’s airline industry is dominated by the ‘big four’ airline groups, which continue to be focused on operating larger commercial aircraft.

But the advent of new start-up carriers in China, independent of the ‘big four,’ does create an opportunity for ATR and Bombardier, because some of these start-up airlines may be tempted to focus on these thin routes, overlooked by the big carriers, where they would face little or no competition, says Martin.

However, the aircraft-makers will need come up with a solid business case for operating smaller aircraft, he says, adding that comparative fixed-costs can be an issue. If there is no significant difference in fixed costs – such as salaries for pilots, cabin crew and maintenance technicians – then airlines may opt for larger aircraft because the fixed costs are about the same.

In a market such as China – “where we have seen a shortage of pilots emerge recently” – it may make more sense for airlines to take their two pilots and have them operate a larger, rather than a smaller aircraft, says Martin.

He also says for the business case to work, the airline needs to see that if it operates smaller aircraft, on thinner routes, then the yields will be much higher than trying to operate larger aircraft on busy trunk routes.
We're beating our commitment on improved fuel burn efficiency, now exceeding 16%. Just the kind of ongoing improvement we told you to expect from our PurePower® Geared Turbofan™ engine architecture. Learn more at PurePowerEngines.com.
The CAAC certified the ARJ21 in December, but 14 months will have passed before Comac subsidiary Chengdu Airlines puts it into service.

Even when the ARJ21, China’s first commercial jet transport, begins carrying paying passengers next February, the state manufacturer will be operating the aircraft itself. The pioneering customer is a Comac subsidiary, Chengdu Airlines.

The first delivery of an ARJ21 to Chengdu Airlines will occur near the end of the year, according to the deputy director of Comac’s flight test center, Tan Xiangsheng, who adds that the date for commercial operation is now February. That will be 14 years after the launch of development and nine years after the target for entry into service announced early in the program.

Recent developmental delays have included final cabin interior design refinements, some aspects of anti-icing operation, and cockpit event awareness and instrumentation updates.

ARJ21 route-proving trials began in March and will continue until mid-September, Tan tells China Industry News, an official newspaper. In the first stage of those trials the aircraft was flown between Shanghai, Tianjin, Nantong, Shijiazhuang and Dongying, all in northern and eastern China. Since July, an ARJ21 has been based at Chengdu, in southwestern city that is home to Chengdu Airlines, to prove the type’s suitability for flying between there and Wuhan, Wenzhou, Fuzhou and Nanjing.

The ARJ21 has been the subject of a shadow certification program by the FAA that is intended to result in the U.S. agency endorsing the CAAC type certificate and, more importantly for the future of the Chinese commercial aircraft industry, recognizing the CAAC’s competence in certifying airworthiness of jet transports.

“The first stage of the FAA shadow certification program for the ARJ21-700 has been completed,” Comac says in a statement. “The CAAC and FAA are discussing the second stage. Comac has never wavered in its confidence that the ARJ21-700 will receive an FAA type certificate.”

On top of the 30-aircraft order placed by Chengdu Airlines, the majority of the 200-plus outstanding orders for the aircraft will go to Chinese or Asian carriers, including Xiamen Airlines, Lao Airlines, and at least two China-based leasing companies.

The 90-seat ARJ21 is the first locally produced commercial regional jet and aims to fill a gap in the market between the turboprop MA60 and 180-seat aircraft such as the C919 and A320.
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Airbus Working on A350 Hurdles in China
空客A350在中国的销售前景看好，短期受限

Airbus China is still grappling with how to sell more Airbus A350s into China.

When Airbus launched the A350 program it envisaged that China would be one of the biggest markets for the aircraft. It even decided to give China a 5% workshare on the program, because it thought that China would account for at least 5% of A350 aircraft deliveries.

Air China has since ordered 10 A350s with deliveries due in 2018-2020, but none of the other mainland Chinese carriers have ordered the aircraft.

The problem is that so many other carriers in other markets have ordered the A350 that there is now a large order backlog, says Airbus Group China chairman Laurence Barron.

"If you order the A350 today, you won't get it until 2020. There's no availability in the short-term for the A350 unless you go to a leasing company," says Barron.

Aircraft-makers such as Airbus require long lead-times, but China's decision-makers and planners work according to relatively short five-year plans, so unless there are delivery slots available within the five year period, it is hard for Chinese carriers to order aircraft.

"The period 2016-2020 is the 13th five-year plan and this is not due to be approved until March next year," says Barron. "If we try to get people interested in aircraft deliveries for the 14th five-year plan, they tell us 'we haven't approved the 13th year plan yet.'"

Despite the inability to sell more A350s into China in the short-term, Barron says he is confident that in the longer-term there will be large numbers of A350s operating in China.

He says the A350 only entered service in China in 2005, but has since become the most popular and most widely used widebody aircraft in China because it is useful on both domestic and international routes. The reason it is popular on domestic routes is because some of the major city efforts suffer from slot constraints, so one way to transport more people is to up-gauge from narrowbody to widebody aircraft.

In terms of the A350, Airbus China can also console itself with the fact that Cathay Pacific Airways, Hong Kong Airlines and Taiwan’s China Airlines have already ordered the A350.
Air China and China Eastern Airlines will each receive their 50th Airbus A330 this week in Toulouse. Last month, China Eastern announced an order for another 15 A330-300s.

Today in the Greater China region, there are around 280 A330s flying. The in-service fleet of A330s in China’s mainland alone is over 160, making the A330 the most popular wide-body aircraft type in China.

Orders in June for another 45 plus 30 options by Chinese Government-controlled company China Aviation Supplies Holding Company, which orders aircraft on behalf of Chinese airlines, prompted Airbus to set up a Chinese completions center in Tianjin.

The 50th A330 for Air China is also the first A330-300 in China with an increased 242 tonne maximum take-off-weight (MTOW) capability, with a range of up to 6,100 nm/11,297 km. The smaller 242-ton A330-200, with a range up to 7,250 nm/13,400 km, was certified by EASA early this month.

Air China introduced its first A330 in 2006, and now operates 49 of the type as well as 120 A320 family aircraft.

By the end of August, there were around 1,200 Airbus aircraft in operation in mainland China.

Eric Chen, President of Airbus China President, believes the Airbus A330 is such a good fit for China’s airlines due to its versatility on both regional and long-haul international routes.

The Airbus A330 was primarily designed as a twin-engine wide-body for short and mid haul range to fly routes across Europe and transatlantic. It has proven capable of flying domestic and regional routes with operational economics on which other wide-bodies designed for long-haul routes cannot compete.

Says Chen: “Domestic air traffic in China will become the world’s number one within 10 years. China is now implementing its ‘One Belt and One Road’ initiative and it’s natural for Chinese airlines to choose A330 for their regional and international long-haul markets due to its versatility, economics, reliability, comfort and availability.”

Airbus introduced another A330 variant in September 2013: the A330 Regional, launching it in Beijing to appeal to Chinese airlines. The A330-300 Regional is optimized for high-density regional routes with a capacity for up to 400 passengers on ranges up to 3,000 nm, and is targeted for use on shorter-haul domestic and regional routes where greater capacity is needed. So far it has been ordered only by Saudi Arabian Airlines.
Aviation enters a new era with a multifunction chronograph delivering unprecedented performance. At the heart of this high-tech feat beats a (COSC) chronometer-certified SuperQuartz™ movement specially developed by Breitling for aviation. Equipped with a sturdy and light titanium case, the Cockpit B50 innovates with its huge range of functions, extreme user friendliness, rechargeable battery and an ultra-legible high-intensity display mode. Reliable, accurate, efficient: the ultimate pilot’s instrument.
P&W Gears Up for PurePower in China
普惠看好静洁动力的未来

Next March will mark the entry into service of the first Pratt & Whitney PurePower geared turbofan in China when China Southern Airlines takes the first of 24 leased Airbus A320neo aircraft powered by the PW1100G-JM engine.

The A320neo was certified last December, and should be delivered to first customers by the end of this year.

While Airbus is launching the geared turbofan (GTF) into service, variants of the engine will also power the Bombardier CSeries, Embraer E-Jet E2 and Mitsubishi MRJ regional airliners, and the Russian MS-21 single-aisle commercial aircraft. To date, some 7,000 GTF engines of all models have been ordered and optioned by more than 70 customers around the world.

Other customers in China include China Development Bank Leasing (CDB Leasing), which last October signed a purchase order for 15 CSeries aircraft, and Tianjin Airlines, the subsidiary of Hainan Group, which ordered two E-Jet E2s in May of this year.

China Aircraft Leasing Group Holdings Limited (CALC), the largest independent operating aircraft lessor in China, signed an MoU with Pratt & Whitney in June to supply PurePower engines for its 18 Airbus A320neos. Deliveries are scheduled to begin in 2017.

Pratt & Whitney has accelerated a variety of activities to ensure customers have a strong support network in place before they begin flying GTF engines. Enhanced support to customers includes global GTF engine training programs and facilities, dedicated field representatives, a global lease engine pool, and an expanded Global Operations Center. In addition to customer training facilities in East Hartford, Connecticut, and Beijing, China, a third facility in Hyderabad, India, will open in the second half of 2015.

So far, Huapu Aviation Engine Training Center, jointly established by Pratt and China Aviation Supplies Holding Company (CAS), has trained more than 13,000 executives and leaders coming from CAAC and airlines in China, says Cai Duo, Pratt & Whitney Greater China President. The number of technicians trained is more than 45,000, increasing 6,000-7,000 every year. Recently, Pratt and CAS have agreed to extend the cooperation period to another ten years.

Recently,普惠公司把重点放在以齿轮传正动涡扇（GTF）发动机技术为核心的静洁动力产品，为5款窄体飞机提供动力，其中3款飞机（庞巴迪C系列、三菱MRJ和巴航工业E-Jet E2）以普惠GTF发动机为唯一动力装置。另有2款飞机（A320neo和MS-21）以普惠GTF发动机为可选动力装置。

据普惠公司高级副总裁里克·德尔卢介绍，普惠GTF发动机在过去两年里取得了巨大的成功，用于庞巴迪C系列的PW1500G发动机在2013年就获得了加拿大航空部的适航证，配装A320neo的PW1100G-JM发动机机也已经在2014年12月取得了美国联邦航空管理局（FAA）的型号合格证。目前普惠正与空客公司积极合作，以确保在今年第4季度向客户交付首架A320neo客机。首架以PW1100G-JM为动力的A320neo客机预计会在2016年3月交付航空公司。

普惠公司十分看好静洁动力发动机在中国市场的巨大潜力。除了空客公司在中国市场不遗余力地推广A320neo外，庞巴迪的C系列和巴航工业的E-Jet E2也有不小的市场开发潜力。中国国银金融租赁有限公司（国银租赁）于2013年10月签署了15架C系列客机的订单，而海航集团旗下的天津航空公司在今年5月订购了两架E-Jet E2，这些订单为GTF打开了中国航空市场的大门。

普惠公司大中华区总裁蔡多表示，普惠公司除了销售产品外，同时也对客户进行相应培训，为他们提供更好的服务。截至目前，普惠公司与中航材合资建立的华普航空发动机培训中心总培训了约13000名来自中国航空公司和民航局的学员，培训“学生日（每人每日）”总计超过45000个，而且在目前情况下每年还将增加6000～7000个“学生日”。最近，普惠与中航材达成协议，将合资公司合作期限再延长10年，普惠相信这个合资公司未来将继续发展，这也是普惠公司深耕中国市场的重要表现。
2015年6月1日，新Ameco正式成立。新Ameco运用"北京飞机维修工程有限公司"的名称，由中国国际航空股份有限公司和德国汉莎航空公司共同合资经营。

新Ameco是在原中国国航工程技术分公司和原北京飞机维修工程有限公司基础上整合资源组建的，拥有员工11000余人，总部设在北京。持有中国民航局（CAAC）、美国联邦航空局（FAA）、欧洲航空安全局（EASA）以及其它近30个国家和地区颁发的维修许可证。下辖北京基地和成都、重庆、杭州、天津、呼和浩特、上海、贵阳、武汉和广州9个分公司，160多个国内外维修站点，拥有多座大型机库和先进的飞机维修设施设备，具有辐射国内外的维修服务网络。

新Ameco, 致力于为您提供更优质的服务。

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Boeing Boosts China Forecast
波音继续看好中国航空运输市场

Boeing remains bullish on China’s commercial aircraft market, valuing it at $950 billion over 20 years, up 9.2% from its previous forecast of $870 billion.

In its latest market outlook for China, Boeing projects demand for 6,330 new commercial aircraft by the country’s airlines through 2034, up 5.1% from the 6,020 aircraft it projected in its 2014 forecast for China.

“Despite the current volatility in China’s financial market, we see strong growth in the country’s aviation sector over the long term,” Boeing Commercial Airplanes VP-marketing Randy Tinseth said in a statement. “Over the next 20 years, China’s commercial airplane fleet will nearly triple from 2,570 airplanes in 2014 to 7,210 airplanes in 2034, with more than 70% of these deliveries accommodating growth.”

Boeing said China will become the world’s largest domestic air travel market over the forecast period, necessitating the delivery of 4,630 single-aisle aircraft through 2034.

“This sector is driven by growth in new carriers and low-cost airlines in developing and emerging markets, as well as continuous expansion in established airlines,” Boeing said.

China’s low-cost carriers (LCCs) currently comprise 8% of the country’s single-aisle market demand, but Boeing forecasts LCCs making up 25%-30% of narrowbody aircraft demand by 2034. The widebody segment will require 1,510 new aircraft over the forecast period, the manufacturer said.

Economic changes in China will facilitate increased commercial aircraft demand, according to Boeing. “China is gradually reducing its rate of growth as it rebalances toward a more consumption-oriented economy,” Boeing said in its market outlook for China.

“Because travel and transport are key services in a consumer economy, this transition will strengthen demand for airplanes. Investment will remain a pillar of the Chinese economy and will provide the necessary infrastructure for sustained growth in passenger traffic. Moreover, targeted efforts toward increased links with Africa and Central Asia will reactivate former trade routes and will further integrate China into world markets.”

### 2015–2034年将向中国交付的新飞机

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波音民机集团市场营销副总裁兰迪·廷赛斯表示，尽管重工业和房地产行业增速明显降低，但是以服务为导向和零售业为驱动的新兴经济发展非常迅速，极大地拉动了中国民航的发展。目前，中国国内市场规模是美国的40%，基于当前的发展速度，到2030年中国会超过美国成为全球最大的民航市场。随着中国成为全球最大的国内航空运输市场，波音预测未来20年中国将需要4,630架单通道飞机。该细分市场受到了快速发展的新兴航空和低成本航空，以及继续扩张的大型成熟航空公司的推动。

波音预测中国的宽体机市场将需要1,510架新飞机。主要是777-300ER、777X和787这样的中型宽体机。廷赛斯认为，中国航空公司国际航线拓展的势头将得以延续并加速。747-8、777和787是支持中国航空公司继续走向全球化的理想机型。”
Comac to be Third Global Player in Aviation
波音欢迎竞争

Boeing China sees Commercial Aircraft Corporation of China (Comac) as an emerging competitor, but adds that it welcomes competition and that the global market is big enough for a new player to emerge.

Ian Thomas, president of Boeing China, says that the U.S. aircraft-maker forecasts that the global aviation market over the next 20 years will take delivery of 38,000 aircraft. “China is an open market for Airbus and Boeing which make larger commercial aircraft.

Thomas says: “We see Comac as an emerging competitor. We respect that and we value that in many respects, but we also see Comac as a huge partner: a company that we can collaborate with, that we can work with on shared objectives.”

Comac and Boeing have a joint-project in Hangzhou where the two are collaborating on ways to turn used cooking oil, sourced from restaurants, into biofuel.

Thomas says Comac appears to be focusing its sales efforts on the domestic market, “but as they get better and improve their products, improve their global reach and capability, their ability to support those products globally and to sell them globally, we’ll see that expand.”

“When time they will certainly become a very important competitor,” he adds.

Comac has developed the ARJ21 regional jet aircraft, which is due to enter service in February with Chengdu Airlines, a carrier in which Comac is a major shareholder. Comac is hoping that the ARJ21 can gain U.S. FAA certification, but so far it has failed to achieve this objective, although the aircraft does have Chinese certification. But FAA or EASA certification is important if Comac is to sell its aircraft overseas, because many countries overseas only accept aircraft on their registry if it is FAA or EASA certified.

Besides ARJ21, Comac is also developing the C919, a director competitor to the Boeing 737 and Airbus A320.

Boeing China President Ian Thomas.

AVIC Delivers 3,000th 737NG Vertical Fin

AVIC’s Xian Aircraft has delivered its 3,000th vertical fin for the 737 next generation aircraft program.

Xian Aircraft and AVIC recently held an event in Seattle to mark the milestone and the 3,000th fin was installed on a Hainan Airlines 737.

John Byrne, vice president of airplane materials and structures (supplier management) at Boeing Commercial Airplanes, says Xian Aircraft is an important supplier to Boeing and that it has attained 100 percent ontime delivery for five straight years.

He also says Xian Aircraft has achieved this while continuing to support “our 33 percent increase in production over the past four years. They have performed at the highest level, with quality and delivery levels that have earned them consecutive Boeing Performance Excellence Awards the past three years.”

“The partnership between Xian Aircraft and Boeing dates back more than 30 years,” says He Shengqiang, president of Xian Aircraft. “We will further advance this partnership by keeping our commitments and high performance in meeting quality, schedule and affordability targets.”

Xian Aircraft says it will provide vertical fins and the inboard flaps for the Boeing 737 MAX, with deliveries scheduled to begin in 2017.
**Fifth Chinese E-190 Operator Set For First Aircraft**

多彩贵州有望年底接收首架E-190

Embraer anticipates that by year-end a fifth Embraer E-Jet operator will start in China.

Colorful Guizhou Airlines, a start-up in Southwest China, signed a contract with Embraer in June for 17 Embraer 190s and Embraer says it expects to deliver the first aircraft to the airline by year-end. Currently, there are 75 E-190s in China and these are operated by China Southern Airlines, Tianjin Airlines, Hebei Airlines, it says.

The aircraft are largely used on domestic routes, but Embraer says the E-Jet is also being used by Chinese carriers on international sectors such as Guangzhou to Manila and Hanoi and from Urumqi to destinations in the Central Asia and eastern Russia. "With a range capability of 4,400 km, the E-190 is most suited to opening long, thin routes from China to secondary cities in neighboring countries, or for adding frequency on trunk routes to neighboring countries," it says.

In terms of customer support, Embraer says it recently signed up Shandong TAECO as an approved MRO for Embraer aircraft. Shandong TAECO also supports Bombardier aircraft.

China Eases Tax on Regional Airliners

中国放宽支线飞机征税标准

 Manufacturers of smaller commercial aircraft in China have received a boost from the authorities, which have made some concessions with regards to how the value-added tax (VAT) on smaller commercial aircraft is imposed.

Companies such as Bombardier have struggled to generate sales in China, partly because of the Chinese Government’s rule that smaller commercial aircraft be subject to a 17% value-added tax.

However, Bombardier Commercial Aircraft VP sales for China and Asia Pacific, Andy Solem, says the authorities have changed the regulations so the VAT no longer has to be paid up front. For example, it can be amortised over the period of a finance lease, he says.

This is why China Express was able to order so many Bombardier CRJ aircraft, he adds.

In last November, Bombardier announced that China Express had ordered 16 additional CRJ900s with options for eight more. The airline is based in Guiyang and has been operating CRJs since 2006.

Solem says China Express is growing rapidly and is about to add its 20th aircraft.

Bombardier is also hoping to sell CSeries aircraft to China Express, but the airline has yet to sign a firm order.
See You Again

2017

北京航展
AVIATION EXPO / CHINA (17th EXPO)
Demand Builds Up for New MA700 Turboprop

Orders for China’s new turboprop regional airliner, AVIC’s up-to-90 seat MA700, now stand at 185 from 11 customers, the company says.

The all-new aircraft is scheduled to make its first flight in 2017, and enter service in 2019, according to AVIC VP Geng Ruguang.

The MA700 is a new-design follow-on to the 60-seat MA600, which entered the market in 2013. The -700 features increased seating capacity for 70-90 passengers; it introduces a high-efficient, six-blade propeller and a T-tail empennage that makes the aircraft faster than its predecessors.


AVIC chief designer Dong Jianhong says the price and fuel efficiency of the MA700 will be lower than its foreign counterparts. “We hope to explore the global market including western countries, and our target is to take one-third of the global turboprop market in the next 10 years,” Dong adds. AVIC projects worldwide sales of approximately 800 aircraft.

Local industry analysts said it is still difficult for Chinese regional carriers to make a profit due to high operating costs and “lack of connection with trunk routes.” For example, AVIC subsidiary Joy Air operates a fleet of nine MA60 regional aircraft, but is still in the red.

Joy Air plans to launch a new regional joint venture with the Xi'an-based regional Okay Airways, which operates 13 MA60s. According to an industry insider, both carriers plan to introduce 40 to 60 MA60 aircraft for the new venture.

Joy Air and Okay Airways have each ordered 30 MA700 aircraft.

The MA700 is designed for ranges up to 800 km and is capable of operating in hot and high conditions. It has 78 seats in its baseline configuration, and can accommodate 86 passengers in the high-density version. A two-class configuration would comprise four seats for business class and 68 seats for economy.

The MA700 will be the first turboprop regional aircraft in the world to use fly-by-wire flight controls. Future plans call for longer and shorter versions, maintaining the same cockpit and cabin section.
Suppliers to the MA700

“新舟”700主要供应商

Pratt & Whitney Canada

Pratt & Whitney Canada will power the MA700 with its PW150C turboprop engine.

The engine maker’s willingness to improve its engine was a key reason for its selection over Rolls-Royce, which offered the AE2100, according to Wang Chengkuan, president of the Xi’an branch of Avic Aircraft, the part of the Avic group that specializes in large airplanes. Compared with the PW150A of the Q400, the PW150C will feature a third stage on the power turbine, an improved low-pressure compressor and a reduction gearbox modified for the Dowty propeller, says the engine company. This will improve operating economics and the power reserve.

P&W’s PW150C turboprop leverages the success of its PW150A by customizing that engine to meet the specific needs of the MA700 and providing exceptional fuel burn economics for the new aircraft.

Pratt & Whitney Canada also powers AVIC Xi’an’s growing fleet of MA60/600 regional aircraft with its PW127J turboprop.

Dowty Propellers

The propeller to be provided by Dowty Propellers builds on more than 75 years of experience in propeller design, manufacture and support, and incorporates new blade aerodynamic designs, along with a highly-reliable and proven propeller system. The propeller will allow the aircraft to deliver optimal levels of endurance and fuel efficiency, while achieving a low-noise environment for the cabin, and competitive life-cycle costs.

Rockwell Collins

Rockwell Collins’ Pro Line Fusion advanced avionics system will provide the MA700’s glass cockpit, displays and avionics. Its Head-up Guidance System—an all-in-one compact head-up display (HUD) solution—will be an airline-selectable option for the MA700. The recent CAAC “China HUD Application Roadmap” calls for all airline fleets to be equipped with HUDs by 2025 on aircraft where a HUD is offered.

Pro Line Fusion for the MA700 delivers extensive situational awareness through an intuitive graphical user interface. It features: Four interchangeable 14-inch widescreen flight displays to optimize dispatchability, MultiScan weather radar with predictive windshear capability, pilot-configurable primary and multifunction display windows that can show any system information, flight-critical data and synaptic diagrams of aircraft system information, and interactive graphical maps with weather overlays, obstacles, and geopolitical boundaries.

Rockwell Collins already provides Pro Line II and Pro Line 21 avionics on the MA60 and MA600 aircraft respectively.

Other Suppliers

These include:

- Safran (Sagem) — Cockpit flight controls, including the control column/yoke and pedals.
- Safran (Labsinal Power Systems) — Main and auxiliary power generation systems.
- Dunlop Aircraft Tyres — Each MA700 will require will require six tires (two for the nosewheels and four for the mainwheels).
AC352 Wins Launch Customer

COHC, the maritime helicopter business branch of CITIC, will be the launch customer for Avicopter’s 14-16-passenger AC352 super-medium sized helicopter, it was announced at last week’s China Helicopter Exposition in Tianjin where the prototype was presented to the public for the first time.

Avicopter has shown mockups of the AC352 helicopter before, but never the real thing. First flight is due by the end of this year.

Further details of COHC’s launch order were not given as negotiations are ongoing. COHC operated a fleet of 51 helicopters at the end of 2014, including 38 Airbus Helicopters—the largest Airbus fleet in Asia—according to data from Hong Kong aviation consultants Asian Sky Group.

The AC352 is a joint program between AVIC Hafei and Airbus Helicopters to develop, produce and market a transport helicopter primarily for the oil and gas industry, and for separate markets in China and the rest of the world. The Airbus Helicopters H175 and China’s AC352 share a common airframe and transmission but differ in important details. Hafei produces all the airframes for the separate production lines in France and China, and Airbus provides the dynamic systems.

The main difference between the two is in the powerplants: the H175 uses a pair of Pratt & Whitney Canada PT6-C67E turboshafts, while the AC352 is powered by jointly-developed Turbomeca-AVIC Ardiden 3 engines, designated WZ16.

Airbus Helicopters and Avicopter last year signed an agreement for the production of up to 1,000 H175/AC352 helicopters over the next 20 years. AVIC Hafei said yesterday it expects to sell 400 of them in that timeframe.

Meanwhile, Airbus Helicopters has marked the first 1,000 flying hours with its H175 helicopters in service with Belgian oil and gas operator Noordzee Helikopters Vlaanderen (NHV). Details released by the operator state that the hours have been flown with the first two aircraft that were delivered to NHV in December 2014. They have completed around 750 missions and carried 11,000 passengers.

Yesterday, Hong Kong-based Government Flying Services (GFS) became the world’s launch customer for the first public-services configured Airbus Helicopters H175, with an order for seven aircraft. Deliveries will begin with three aircraft towards the end of 2017, followed by the remaining four in 2018.

The order is a significant boost for the H175, which has suffered a low uptake partly because of its late arrival to market and the drop in demand for helicopters from oil and gas support operators as a result of the fall in energy prices.

Nonetheless, the company has managed to shore up a number of significant orders, from Bristow and from leasing company Milestone Aviation. It has orders and agreements for just over 100 aircraft.

Airbus would have hoped for earlier success for a SAR capable H175. In 2012, the company proposed the aircraft for the UK’s demilitarization of SAR services. However, the winner of the contract, Bristow Group, selected the AW189.
WZ16 Engine for AC352 ‘Best in Class’

Avic’s AC352 super-medium helicopter is powered by the most high-tech turboshaft available in its class, the Ardiden 3C/AVIC WZ16, developed jointly by Turbomeca and AVIC Dongan, the companies claim.

Now AVIC and Turbomeca are standing ready to support the first flight of the helicopter, which they say could happen in the coming weeks.

The 1,700 shp WZ16 is the only new-generation engine in this power range on the market, the companies add.

Its design ensures that the engine will be very reliable and cost-effective, particularly in terms of maintenance and cost-of-ownership. It offers 10 percent lower fuel consumption than other engines in its category, and lower operating costs, Ardiden 3C/WZ16 will be certified by EASA under the designation Ardiden 3C, and by the Civil Aviation Administration of China (CAAC) under the designation WZ16.

The Ardiden family is divided into two groups: Ardiden 1, which offers 1,400 shp with growth potential to 1,700 shp, and Ardiden 3, covering 1,700 to 2,000 shp. Today, over 250 Ardiden 1s are in service throughout the world. They are installed in the Druzh, LCH (Light Combat Helicopter) and LUH (Light Utility Helicopter), all built by India's Hindustan Aeronautics Limited. Ardiden 3G, another Ardiden 3 derivative, powers the Ka-62 built by Russian Helicopters.

With over 500 engines in operation in China, one of every two Chinese-registered helicopters is equipped with Turbomeca engines or its licensed products.

Turbomeca China General Manager Hervé Pasbecq said, “because it is designed to perform in the toughest environments with the lowest operating costs, Ardiden 3C/WZ16 is a perfect match for the AC352. This engine will bring more power, more range and more mission capabilities to this new helicopter. Through our partnership with Avic Dongan, AC352 operators will benefit from the know-how and experience of two key players in the field of aircraft propulsion.”

Engine performance figures have already been validated during ground tests. The engine will be certified by EASA under the designation Ardiden 3C, and by the Civil Aviation Administration of China (CAAC) under the designation WZ16.

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World’s Largest Amphibian Nears Completion
AG600年底完成总装

The world’s largest amphibious aircraft, the four-engine AVIC AG600, is nearing completion in the Zhuhai base of China Aviation Industry General Aircraft Co., Ltd. (CAIGA). The goal is to achieve first flight in the first half of next year.

Leng Yixun, Office Director of general engineering, notes the AG600 is the largest special purpose civilian aircraft designed in China. It is one of the country’s three “large aircraft” programs, in addition to the Comac C919 airliner and the Y-20 strategic transport.

The amphibian is urgently needed by the national emergency rescue system to meet China’s forest fire fighting and water rescue needs, he says. Primary users are expected to be the State Forestry Bureau, State Oceanic Administration, and other agencies.

The AG600 features a retractable tricycle-type landing gear, and is powered by four turbotop prop engines. Maximum takeoff weight is of 53.5 tons, and it can 12 tons of water in just 20 seconds.

The aircraft it can be modified for marine environmental monitoring, resource exploration, and passenger and cargo transport. In water rescue operations it can save more than 50 persons in distress one time.

Two orders for the aircraft were announced at last November’s Airshow China in Zhuhai.

7月17日，在中航工业通飞珠海基地，AG600机身段完成对接，全面进入总装阶段，这是AG600研制进程中的一个重要里程碑。AG600将于2015年年底完成总装，2016年上半年实现首飞。

AG600，由国产客机C919，以及运20重型战略运输机均是国家立项，并齐驱，构成了中国大飞机的三马车，也就是中国的三型大飞机。

AG600公司成功下线，2015年3月12日，AG600中央翼段机头大部件在中航飞机西安分公司下线，3月13日，由中航工业成飞民机及成飞民机的机头大部件在成都顺利完成总装下线。4月27日，AG600中后机身，后机身在中航飞机汉中分公司下线，7月5日，AG600发动机短舱及尾翼在中航通飞华北公司下线交付。

Parker Aircraft Opens Global Customer Center
派克宇航全球客户服务中心投入运营

派克宇航公司的全新客户服务中心将于2015年第三季度正式投入运营，该中心为客户提供7x24小时的全方位服务和技术支持。该中心可全天候为故障停飞的飞机（AOG）提供材料、物流和技术支持，还提供备件价格、负责订单的执行和交付、维修订单管理、派克公司全球范围内备件网络的管理。这样带来的好处是客户只需要与中心联系就可以获得技术、商务服务，服务要求和问题可以很快得到解决。

派克宇航公司设计、制造和维护飞行控制系统、液压和燃油系统、发动机系统以及部件。派克宇航公司表示，其与天津航空公司签订了一份长期的支持协议，为天津航空的E190机队提供技术支持。派克宇航还与阿联酋航空签署了一份全面的维修服务协议，通过其全球维修服务平台为阿联酋航空的波音777和A330/A340飞机和发动机提供服务，为新加坡航空公司的波音777飞机提供全面的服务支持，包括维修、库存租赁计划、可靠性维护和其他方面的管理。
展翅登峰，傲然造极
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Comac C919 Readies for Roll Out

Comac has largely assembled the structure of the first flight-test unit of its second aircraft type, the 158-seat C919, and is targeting a roll out for late this year.

At Comac’s Shanghai plant, the first flight-test C919 has advanced far enough to be removed from assembly tooling and is standing on its undercarriage in the assembly hall but is still in green primer. Compared with photographs that Comac supplied to Aviation Week in June, the other main difference is that the doors, cabin windows and windscreen have been fitted.

Engines and pylons are still not attached. Comac received the first CFM LEAP-1C engine for the C919 on July 22.

The aircraft should be rolled out near the end of the year, says an industry official close to the program.

Progress in fitting onboard equipment to the first C919 is unclear. In mid-August, Comac said the test specimen fuselage for the second C919 was delivered and tested, but not in the aircraft.

In the background of a recent, unofficial social-media photograph is the nose and forward fuselage of a second C919.

Comac plans to build six flight-test aircraft. Industry officials with insight into C919 development commonly expect the aircraft. Industry officials with insight into the electrical supply system was being progressively delivered and tested, but not in the aircraft.

Comac has largely assembled the main assemblies of the wing and fuselage for the first C919 were delivered to Comac’s Pudong site in 2014. Deliveries of smaller items have continued this year.

The tailcone arrived in February; unusually, its maker, Aerospace Haying (Zhenjiang) Special Materials Co., belongs not to Avic but to China Aerospace Science and Industry Corp., a manufacturer of weapons and solid-propellant space launchers. The fin, made mainly of composites, arrived in February from Avic’s Shenyang works, followed in April by the forward and aft cargo doors from the group’s Hongdu Aviation at Nanchang.

In January Huaxia Financial Leasing signed a letter of intent for 20 C919s. Though not an actual order, the deal is included in Comac’s tally of 450 orders, commitments and options. Like almost all C919 customers, Huaxia Financial Leasing is Chinese. The exception is Gecas, which is owned by CFM partner General Electric.

Comac’s C919 is now out of its jigs and standing on its landing gear.
CFM Delivers First LEAP Engine for C919
CFM为C919交付首台LEAP发动机

Roll out and first flight of Comac’s 150-passenger C919 airliner edged closer following delivery in July of the first CFM LEAP-1C engine to the aircraft manufacturer.

“This engine is the culmination of more than six years of hard work between the CFM and Comac teams,” said Allen Paxson, executive vice president of CFM International.

The engine incorporates a unique, industry-first fully integrated propulsion system (IPS). CFM provides the engine as well as the nacelle and thrust reverser developed by Nexcelle. These elements, including the pylon provided by Comac, were designed in conjunction with each other, resulting in a total system that provides improved aerodynamics, lower weight, and easier maintenance.

The LEAP engine was officially launched in December 2009 when Comac selected the LEAP-1C as the sole Western powerplant for the C919.

CFM is executing the most extensive ground and flight test certification program in its history. There are currently a total of more than 30 LEAP engines (of all three models) on test or in final assembly and the program has logged a total of more than 4,730 certification ground and flight test hours and 7,900 cycles. The total program, which encompasses all three LEAP engine variants, includes 28 ground and CFM flight test engines, along with a total of 32 flight test engines for aircraft manufacturers.

The first LEAP-1C engine successfully completed a flight test program in late 2014 on GE’s modified 747 flying testbed. The flight-test program encompassed a comprehensive test schedule that gauged engine operability, stall margin, performance, emissions, and acoustics. It also validated the advanced technologies incorporated in the engine, including the woven carbon fiber composite fan, the Twin-Annular, Pre-Mixing Swirler (TAPS) combustor, ceramic matrix composite shrouds in the high-pressure turbine and titanium aluminide blades in the low-pressure turbine.

CFM has undertaken to keep its maintenance costs for the LEAP engine to levels at or similar to those of the current CFM56 engine. Lifetime costs would be “the same or similar” to those of the CFM56, which powers Airbus A320s and Boeing 737s, according to Paxson. He said maintenance cycles would also be “very similar.”

The LEAP is scheduled to begin deliveries in 2016. It is the sole-source engine for the new Boeing 737 MAX and Comac C919, and competes with Pratt & Whitney’s new geared turbofan engine on the Airbus A320neo.

To date, the company has delivered more than 28,000 CFM56 engines, and has received orders and commitments for a total of more than 9,550 LEAP engines.

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Avicopter Designs Heavy Lifter for Altitude
中航直升机的先进重型直升机注重高海拔作业能力

Avicopter proposes a design for the Sino-Russian Advanced Heavy Lift helicopter that would fly far higher than most heavy rotorcraft.

The average elevation of the Tibetan plateau is more than 5,000 meters (16,400 ft.). Most big helicopters do not fly that high—but the one that Avic proposes to build in partnership with Russian Helicopters would do so.

In Avicopter’s concept, the Advanced Heavy Lifter (AHL) would have a service ceiling of 5,700 meters combined with a gross weight of 38.2 metric tons (84,200 lb.), nearly twice the mass of the even higher-flying Boeing CH-47F Chinook.

Avicopter and Russian Helicopters is each working on its own design for the AHL, say industry officials in China. When the program is launched into full-scale development, the designs will be merged, the officials say.

Avicopter exhibited a model of its current design at the China Helicopter Exposition in Tianjin Sept. 9-13, revealing an unusually long aircraft that the officials say would seat 60 passengers. Its specifications include a maximum speed of 300 kph (186 mph) and range of 630 km. The Sikorsky CH-53K King Stallion, under development for the U.S. Marine Corps, is of a similar size.

Compared with the Chinese design, the Russian Helicopters proposal looks like it provides a wider and taller cabin, has a horizontal stabilizer but lacks sponsons for housing the main landing gear. Both designs feature a seven-blade main rotor.

In setting a high ceiling for the AHL, Avicopter is thinking of the vast plateau territory in China’s west and southwest, the altitude of which repeatedly influences the country’s aircraft designs; the Comac ARJ21 regional jet, for example, is configured for good performance on high runways.

By comparison with the AHL’s specified 5,700 meters, the CH-53K has a service ceiling of 4,380 meters and the AgustaWestland AW101 4,570 meters. The Chinook can reach 6,100 meters.

Russian industry has proposed a Russian engine for the AHL, but Chinese officials are adamant that an Avic turboshaft should be used.

A Sino-Russian framework agreement for AHL cooperation was signed on May 8 during a visit to Moscow by President Xi Jinping, but the two countries have been studying it since 2008.

中航工业直升机在上周举行的第三届中国天津国际直升机博览会上展示了先进重型直升机（AHL）模型。

据官方数据显示，该机最大起飞重量38.2吨，最高速度300千米/小时，航程630千米，与西科斯基正在研发的CH-53K属同一级别的直升机。中国需要考虑将直升机用于中国西部和西南地区广阔的高原地区，例如青藏高原很多地方的海拔高度都在5000米以上，大多重型直升机都无法在这一高度上执行任务，但AHL项目要求可在这海拔高度作业。因此AHL的实用限高被设定在5000米，相比之下其他几种直升机如CH-53的限高为4380米，AW101的限高则为4570米，CH-47的限高则可以达到6100米。

在AHL项目初期，中航工业直升机和俄罗斯直升机公司将各自进行设计，在全尺寸发展阶段，双方的设计将被合并。俄罗斯计划为AHL安装俄产的涡轴发动机，而中方则坚持为共建中航工业生产的发动机。在机体设计方面，中俄双方的设计有一定区别，例如该模型显示中方AHL方案的直升机的机身较短，有可能搭载60名乘客，而俄方公司的方案看上去机舱更宽也更高，有水平尾翼，但缺少外伸的主起落架舱。中俄两国的方案都采用了7片主旋翼设计。
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